

CLAIMS

1. An information recording medium on which there are recorded:
content information;
5 button information for defining a button menu which allows an operation as for said content information; and
play list information for defining reproduction sequence of said content information by a unit of item, which constitutes said content information and which is accessible upon reproduction,
10 said button information including a plurality of button pages each of which can constitute the button menu and whose display can be changed to each other.
2. The information recording medium according to claim 1, wherein said play list information includes: item information for specifying each item which constitutes said content information; and sub item information for specifying said button information corresponding to the each item as a sub item.
15
3. The information recording medium according to claim 1, wherein at least one of the plurality of button pages includes button command information for defining the operation.
20
4. The information recording medium according to claim 1, wherein at least one of the plurality of button pages includes button control information being associated with at least one button image information which is
25

displayed and outputted as the button menu, and for displaying and outputting the button image information.

5. The information recording medium according to claim 4, wherein the
5 button control information includes at least one of button image number
information which indicates association with the button image information,
display position information which indicates a display position on the button
menu of a button defined by the button image information, and near-by
button information which indicates a change in a state of the button caused
10 by the operation.

6. The information recording medium according to claim 2, on which
there is further recorded reproduction control information for controlling such
that said button information specified by the sub item information is
15 displayed, with it superimposed on or replaced by one portion of said content
information corresponding to said button information specified by the sub
item information, or is not displayed at all, selectively in accordance with
external designation, in reproduction.

20 7. The information recording medium according to claim 1, wherein said
button information is recorded together with said content information, in a
content space in which said content information is recorded and which
occupies one area of a recording area.

25 8. The information recording medium according to claim 1, on which
there is further recorded background image information for defining a

background image on which the button menu is superimposed and displayed.

9. An information recording apparatus, comprising:

5 a first recording device for recording content information and button information for defining a button menu which allows an operation as for said content information; and

10 a second recording device for recording play list information for defining reproduction sequence of said content information by a unit of item, which constitutes said content information and which is accessible upon reproduction,

said button information including a plurality of button pages each of which can constitute the button menu and whose display can be changed to each other.

15 10. The information recording apparatus according to claim 9, wherein said play list information includes: item information for specifying each item which constitutes said content information; and sub item information for specifying said button information corresponding to the each item as a sub item.

20

11. An information recording method, comprising:

a first recording process of recording content information and button information for defining a button menu which allows an operation as for said content information; and

25 a second recording process of recording play list information for defining reproduction sequence of said content information by a unit of item,

which constitutes said content information and which is accessible upon reproduction,

5 said button information including a plurality of button pages each of which can constitute the button menu and whose display can be changed to each other.

12. An information reproducing apparatus for reproducing said information recording medium according to claim 1,

 said information reproducing apparatus comprising:

10 a reproducing device for reproducing said content information, said button information and said play list information;

 a generating device for generating the button menu on the basis of said button information;

15 a designating device for designating one button page out of the plurality of button pages; and

 a controlling device for controlling said generating device to generate the button menu constituted by the designated one button page.

13. The information reproducing apparatus according to claim 12,

20 wherein said controlling device controls said reproducing device to reproduce said content information and said button information, in accordance with the item information and the sub item information included in said play list information reproduced by said reproducing device.

25 14. The information reproducing apparatus according to claim 12,
 wherein

said designating device is a button in which the button command information is defined, and

said controlling device controls said reproducing device and said generating device, in accordance with the button command information.

5

15. The information reproducing apparatus according to claim 12, wherein said reproducing device pre-loads said button information before reproduction of said content information.

10 16. The information reproducing apparatus according to claim 12, further comprising a buffer memory for storing the generated button menu.

17. An information reproducing method of reproducing said information recording medium according to claim 1,

15 said information reproducing method comprising:

a reproducing process of reproducing said content information, said button information and said play list information;

a generating process of generating the button menu on the basis of said button information;

20 a designating process of designating one button page out of the plurality of button pages; and

a controlling process of controlling said generating process to generate the button menu constituted by the designated one button page.

25 18. An information recording / reproducing apparatus, comprising:

a first recording device for recording content information and button

information for defining a button menu which allows an operation as for said content information; and

a second recording device for recording play list information for defining reproduction sequence of said content information by a unit of item,
5 which constitutes said content information and which is accessible upon reproduction,

said button information including a plurality of button pages each of which can constitute the button menu and whose display can be changed to each other,

10 said information recording / reproducing apparatus further comprising:

a reproducing device for reproducing said content information, said button information and said play list information;

15 a generating device for generating the button menu on the basis of said button information;

a designating device for designating one button page out of the plurality of button pages; and

a controlling device for controlling said generating device to generate the button menu constituted by the designated one button page.

20

19. The information recording / reproducing apparatus according to claim 18, wherein

25 said play list information includes: item information for specifying each item which constitutes said content information; and sub item information for specifying said button information corresponding to the each item as a sub item, and

said controlling device controls said reproducing device to reproduce said content information and said button information, in accordance with the item information and the sub item information included in said play list information reproduced by said reproducing device.

5

20. An information recording / reproducing method, comprising:

a first recording process of recording content information and button information for defining a button menu which allows an operation as for said content information; and

10 a second recording process of recording play list information for defining reproduction sequence of said content information by a unit of item, which constitutes said content information and which is accessible upon reproduction,

15 said button information including a plurality of button pages each of which can constitute the button menu and whose display can be changed to each other,

said information recording / reproducing method further comprising:

a reproducing process of reproducing said content information, said button information and said play list information;

20 a generating process of generating the button menu on the basis of said button information;

a designating process of designating one button page out of the plurality of button pages; and

25 a controlling process of controlling said generating process to generate the button menu constituted by the designated one button page.

21. A computer program for recording control to control a computer provided for the information recording apparatus according to claim 9, said computer program making the computer function as at least one portion of said first recording device and said second recording device.

5

22. A computer program for reproduction control to control a computer provided for the information reproducing apparatus according to claim 12, said computer program making the computer function as at least one portion of said reproducing device, said generating device, said designating device
10 and said controlling device.

23. A computer program for record / reproduction control to control a computer provided for the information recording / reproducing apparatus according to claim 18, said computer program making the computer function
15 as at least one portion of said first recording device, said second recording device, said reproducing device, said generating device, said designating device and said controlling device.

24. A data structure including a control signal, comprising:

20 content information;
button information for defining a button menu which allows an operation as for said content information; and
play list information for defining reproduction sequence of said content information by a unit of item, which constitutes said content
25 information and which is accessible upon reproduction,
said button information including a plurality of button pages each of

which can constitute the button menu and whose display can be changed to each other.